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Deer Crossing of Highways

Warden Erwin Kent of Helena removes a car-killed deer from the highway. Highway signs warn motorists in areas where deer are known to habitually cross.

The losses of deer to traffic on Montana highways is of little consequence to the overall deer population, but to the motorist who suddenly finds one on his hood, it's important! The hazards of deer crossing highways at night will be vouched for by anyone who has driven Montana highways a lot after dark. Other states are faced with this problem also, and some feel that structures needed to permit safe passage of deer across highways should be incorporated into highway construction designs during their planning stages.

To this time, however, there has been too little research on the deer crossing problem for anyone to make really knowledgeable recommendations as to what structures do the job best. A recent survey of western states by the Colorado Fish and Game Department points up this lack of information but also shows that the answers are being learned. Following are some points made in summary of the Colorado survey.

Each area where deer habitually cross highways will require individual attention because of individual differences. Generally, it appears that large bridge-type underpasses, properly placed, with wing fences or other inducements will be necessary to move migrating deer beneath highways. The use of livestock underpasses should be incorporated wherever possible, but passes apparently will never get much use unless they are situated at habitual crossing areas for convenience of the deer rather than of the highway.

Underpasses are being studied in several states. Arizona is installing nine concrete box underpass structures beneath Interstate 17, south of Flagstaff, for passage of deer, elk and livestock. These underpasses vary in size from 6' x 7' to 7' x 10' and in length from 47' to 145'. The total cost will be $204,000, with individual costs ranging from $14,500, to $44,000. Smooth sheep-type fences are being built along the approaches and through the median areas. Portions of the fence will be screened by vegetation in order to provide cover and aesthetics. The effectiveness of these underpasses will be studied after construction has been completed.

Studies so far have shown small drainage culverts to be inadequate. Colorado installed four metal culverts beneath U. S. Highway 50, west of Gunnison, in an attempt to get deer to go under the new two-lane highway. These culverts are seven feet in diameter, 100 feet long and

have dirt floors. Preliminary investigations reveal that deer do not use these culverts even though the approach to one tube is fenced. Deer use beneath two wooden bridges on Colorado 13, south of Meeker, is being checked and even though the bridges are located on a heavily used migration route, their value as an underpass appears insignificant. Utah has also experimented with steel culverts of about 7 feet in diameter, but shows deer use practically nil even when bottoms are covered with asphalt.

Warning signs as used in Montana are used in a number of states. These are essentially diamond-shape, 30 inches by 30 inches with black letters on a yellow background and reflectorized. The effectiveness of these signs is doubtful, particularly where local drivers become accustomed to their presence. Several states are experimenting with larger signs. Colorado placed four large diamond-shaped warning signs along a 26 mile study area near Grand Valley, in 1962. These signs are 48 inches by 48 inches, have reflectorized letters and read "Deer Crossing." A smaller rectangular sign below reads "Next.....Miles." Other signs have been placed on an important deer migration route across a highway south of Meeker. Two large rectangular signs are placed at each end of the 20 mile migration during the migrating periods. Their effectiveness has not been assessed, although "data are not encouraging."

Game proof fences are effective in keeping resident deer off highways, but are definite deterrents to migrating deer. Several states advocate a low fence, or none at all, along highway crossings to permit easier movement by deer. Utah found that fences over 42 inches high are barriers to migrating deer, especially fawns. In areas where woven wire fencing is necessary, the Utah department advocates a 32 inch net fence with a strand of barbed wire 10 inches above to permit deer crossing of highways. Idaho has considered various measures to permit migrating deer to cross I-80 in Cassia County. They believe letting down the fences during the migration period would be the best solution.

In arid lands, the development of watering areas at strategic spots has been used to advantage in keeping deer off highways. New Mexico has suggested clearing vegetation along right-of-ways as a means of keeping deer away from the highway, or at least making them visible. In Montana, the Highway Department is doing extra clearing along right-of-ways in spots where deer are known to concentrate or habitually cross highways. Several states are experimenting with small mirrors placed along the highway right-of-way designed to frighten deer away from oncoming traffic.

With the exception of Texas, all states responding to Colorado's questionnaire stated that state highway Departments and the Bureau of Public Roads have paid for all highway construction measures designed to reduce deer-vehicle accidents. In most cases this cost is for signs, although they will pay for additional measures such as large culverts, underpasses, overpasses, and fences. The cost of experimental measures is usually borne by the game and fish departments.

State Highway Gives Park to Fish and Game

A 14-acre roadside park located about 45 miles west of Kalispell on U.S. Highway 2 has been given to the Fish and Game Commission by the State Highway Commission. Wes Woodgerd, Chief of Recreation and Parks for the Fish and Game Department made the announcement and said that the transfer of the land was accomplished by easement.

Middle Thompson Lake From Logan Park

The area, known as "Logan Park," is beautifully situated adjacent to Middle Thompson Lake. Large trees offer shade and shelter, and the lake contains cutthroat, kokanee, and perch.

Woodgerd said that there are some facilities in Logan park now, including picnic tables, fireplaces and latrines. Boat launching is done from an existing gravel ramp.

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Edited by VERNON CRAIG

SIGNS YOU SHOULD KNOW

by Dick Ellis

One of the jobs of the Fish and Game Recreation and Parks Division is development of certain parcels of land acquired for public use. In addition to building roads, picnicking facilities, water supplies and latrines, development involves the placement of signs which are designed to guide and inform recreationists. The various types of signs used in connection with facilities ranging from parks and monuments, to fishing access sites are manufactured during the winter months in shops at Whitehall and the Fish and Game warehouse at Helena. The construction of signs also provides "off season" work.

State Parks and Monuments

State Parks and Monuments often require an ambitious signing program. Not only are approach and entrance signs necessary, but numerous interpretive signs are used to point out campgrounds and facilities as well major attractions in the area. Many Montana travelers are familiar with the extensive signing program along roads leading to the Lewis and Clark Caverns near Whitehall. This roadside advertising helped to bring in more than seventy thousand visitors to that unique attraction last season.

Montana is blessed with a rich western history, ranging from Indian culture and early exploration to ghost towns and forts, which appeals to the pioneer spirit of a great many people. Part of the role of the Recreation and Parks Division is the preservation of certain areas of historic interest. Signing programs are necessary in these areas not only to direct travelers to points of interest which may be far from the beaten paths, but also to enhance the visitor's enjoyment and understanding through interpretation of the significant features and historical happenings. Such interpretive programs are in effect in many areas including the town of Bannack, established in 1862 as the first capital of Montana Territory and the Missouri River Headwaters State Monument, an important landmark of the Lewis and Clark Expedition.

Fishing Access Sites

A new sign displaying the Fish and Game Department grizzly bear symbol will soon be a common sight and should be a welcome one to fishermen. It will signify the **approach** to one of the numerous fishing access sites within the state. The sites and turnoffs are also marked by signs. These areas vary in size from a few acres up to several miles of river front, and all are located on prime fishing waters. Besides providing public access to good fishing and waterfowl hunting during the season, most of these areas are also developed for picnicking and camping. These developments are a welcome addition for the fisherman's family and for those who just want an enjoyable place to picnic.

The signs pictured on these pages are some that recreationists will want to know. They can be important guides in the pursuit of outdoor enjoyment.

The access approach sign advises motorists that they will soon be at a fishing access site or turnoff to a site.

A sign which has become familiar to most Montanans is the Fishing Access sign. The signs point out many areas which are enjoyed by picnickers and campers as well as fishermen.

Mrs. Peggy Reynolds operates a router at the Whitehall shop. Routers are the key machines for sign making. Not all kinds of wood route well.

Paint is squirted into routed letters with an oil can. Mrs. Juanita Armstrong of Whitehall applies paint to lettering of an access approach sign.

Some signs require no lettering.

Back Country Patrol

by: Louis Kis

The patrol of back country areas still requires "horsepower."

In these days of modern police cruisers, patrol wagons etc. one doesn't think of the horse as a means of patrol. Although our modern game law enforcement officer has highway cruisers, four-wheel drive units, power boats, trail bikes, motorized snow sleds and two-way radio gear at his disposal, the horse still has its place in law enforcement.

Of course the modern horse doesn't come equipped with flashing red lights, two-way radio and siren, nor does the modern day riding saddle have seat belts or padded horn; although, many a nimrod could have used seat belts to advantage including myself.

In our modern society of paved highways and new access roads few places remain where the trusty horse is king. Montana is fortunate in having several of these places where one can cast the cares of the world away and enjoy the primitive life at its best. One such area is the Bob Marshall Wilderness. The Bob Marshall Wilderness comprises over 900,000 acres of forest mountains, meadows, lakes and streams. It abounds in fish of several species and is noted for its elk, goat, deer and grizzly bear along with many other wilderness dwellers.

Due to the abundance of wildlife, each year more and more people from all walks of life are flocking to the wilderness areas to get back to nature. Here in the wilderness, as any place else where people congregate, it is necessary to enforce law and order and keep the public informed of rules and regulations. With a cutthroat on every cast of your fly there are some who forget the legal limits. With elk abundant some tend to shoot one for their friend at home who couldn't make the trip.

The law enforcement division of the Montana Fish and Game Department is charged with the responsibility to see to it that all who partake of our fish and game do so with proper licenses and in the prescribed manner as set by Montana law and the Montana Fish and Game Commission.

How does a typical back country patrol trip come about? Word comes through on the grapevine that a party in the Bob Marshall Wilderness at White River is smoking fish—possibly over limits. Those responsible are notified. Horses and gear are loaded into the stock truck and trucked to road's end nearest to the area to be patrolled. Here gear is "mantied" together and loaded on the pack stock. The enforcement officer many times will be by himself, but on occasion will be accompanied by another warden. He is fortunate if he is on the trail before dark. Generally, he will travel until about midnight, make camp, arise early the following day, repack and continue to his destination—in this case the mouth of the White River.

On arriving there in the afternoon he finds evidence that the party in question has packed up and is headed downstream. Continuing on his quest he comes upon the camp some ten miles downstream from where they were reported. After interrogating those in the party it is determined that they are in violation of Montana Fish and Game laws, evidence is seized, citations are issued and the defendants are requested to appear in court at a later date since it will be days before they can reach a magistrate.

This is an example of a fruitful trip, but not all trips end this way. Many times the weather is adverse and the enforcement officer finds twenty or more miles of cold, wet, muddy trail awaits him as he takes to the saddle. Frequently he arrives at his destination and finds he is too late.

Not all patrols of the back country are made on such short notice. Usually the officer has ample time to get his gear together. Horses and mules are trucked at a more leisurely rate to the road's end at Spotted Bear. Here gear and food are "mantied" and loaded on the mules making use of the U. S. Forest Service facilities which are most graciously offered for the enforcement officer's use. The officer then travels by well-maintained trail to his first temporary camp in this area—a Forest Service cabin some ten to fifteen miles by trail. The officer using the cabin as temporary headquarters, again with the consent of the U. S. Forest Service, may patrol in various directions for a day or two then move on further into the wilderness area to another Forest Service station and continue his patrols. Often he is met by Forest Service officials who assist him.

What does the officer look for on these patrols? He observes game conditions, stream conditions, is alert during fire season for fires, makes contact with any fishermen in the area during the summer and hunters later in the fall. Fishermen are checked for proper license, creel limits and unlawful bait such as live minnows, etc. Also, the officer advises fishermen of adjacent streams and lakes and what to expect in them as to fish species and size. Hunters are checked for proper licenses and game kills are inspected for proper tagging. Hunters are advised as to proper handling of game meat and unsuccessful ones advised of where they might find game.

Another important aspect of the patrol is the inspection of the licensed outfitter's camps and facilities. Each camp is gone over with the out-

fitter or his guide and a field inspection report is issued showing conditions at the camp as to equipment, pack and riding stock, and sanitary facilities. Items not up to standard are noted on the report, a copy of which is filed at the district headquarters for further reference. Fortunately most licensed outfitters maintain clean, well-equipped camps for their guests.

After some seven to ten days in the back country the officer returns to his headquarters and family. Reports are made, equipment repaired, and horses re-shod in preparedness for the next patrol.

Even though the weather may have been bad and long days spent in the saddle the officer who is fortunate enough to be assigned to back country patrol is the envy of us "desk bound" unfortunates. In these latter years with modern enforcement tools and a new breed of enforcement officers perhaps it is in the high mountains of the back country where the real test of dedication of the conversation officer is made.

Thermal Pollution of Water

The question when a state of pollution may exist can be greatly simplified if it is tied in with a concept of desired use. In this context, **water pollution is the specific impairment of water quality by agricultural, domestic, or industrial wastes (including thermal and atomic wastes), to a degree that has an adverse effect upon any beneficial use of water yet that does not necessarily create an actual hazard to the public health.** Under this definition, if there is no impairment of desired use by the presence or addition of any factor, there is no pollution. This is an important concept to adopt because: (1) it is easily understood, (2) it is reasonable, and (3) it is potentially enforceable.

The word "pollution" is derived from the Latin word "polluere" which means "to make dirty." In traditional considerations, it has been generally regarded that pollutants comprised only those factors that caused visible unsightliness in our nation's waterways. Of course, during the years following those days when the visibly-harmful ingredients were first recognized in our streams, lakes, estuaries and coastal waters, we must now count a myriad other unnoticed but potent pollutants. One of the more recently recognized and less traditional forms of environmental pollutants occurs as excessive heat, in this context, in the form of heated water—**thermal pollution.**

(Portion of an article from Jan.-Feb. Issue—"S. F. I. Bulletin.")

THOMPSON FALLS STATE PARK

by Ashley Roberts

Looking upstream across the Clark Fork from Thompson Falls State Park.

Noxon Rapids Reservoir is a project of the Washington Water Power Company and is located on the Clark Fork River in western Montana. The dam is located some 45 miles southeast of Sandpoint, Idaho and 30 miles northwest of Thompson Falls, Montana. The dam was completed and the first power units on the line in 1959. The reservoir impoundment area backs water 38 miles upstream to the tailwater of the Thompson Falls hydroelectric development of the Montana Power Company. The normal surface area of the reservoir will be approximately 8,650 acres.

On June 3, 1960, the Parks Section signed an agreement with the Washington Water Power Company whereby the Parks Section would assume administration of an area adjacent to the reservoir to be developed for recreation purposes and become a part of the state park system. The area contains approximately 25 acres and is located three miles west of Thompson Falls.

A number of improvements have been made at the site. Access roads have been constructed, a well and water system installed, sanitary facilities constructed, fireplaces installed and picnic tables located. Floodlights have also been installed for the convenience of visitors. Additional improvements to the area are now underway and will be completed next summer. These improvements include more interior roads, parking areas, a new well, picnic tables, fireplaces and shelter buildings. These new facilities will more than double the camping and picnicking capacity of the park. These new improvements are being financed under the Land and Water Conservation Fund Act.

Recreation use of the reservoir and surrounding area has been largely water-oriented. Fishing success the first few years immediately after the reservoir was filled was outstanding. Although the fisherman's success has declined somewhat in recent years, it is to be expected that fishing will continue to be one of the principle attractions here.

Weather in July and August is generally fair with occasional thunder showers. Daytime temperatures will reach 80° to 90° cooling at night between 40° to 50°. Spring and fall have a mixture of about equal portions of sunny and rainy weather. Temperatures are cool for swimming then, but good for other phases of outdoor recreation.

The park area is covered with pine trees and is in a beautiful setting overlooking the extreme upstream portion of Noxon Reservoir.

Travelers using U.S. Highway No. 10A make good use of the park as it is a natural and well located stopping place between Missoula and Spokane. The park is also popular with local people living in the Clark Fork valley.

This—Thompson Falls State Park—is one of the more attractive parks in the state park system and well worth a visit if you are ever traveling in the Thompson Falls area.

NEW AREAS ADDED TO GAME MAP

The Fish and Game Commission has set hunting regulations and tentative quotas for the 1968 antelope, moose, sheep and goat seasons, and maps will soon be printed.

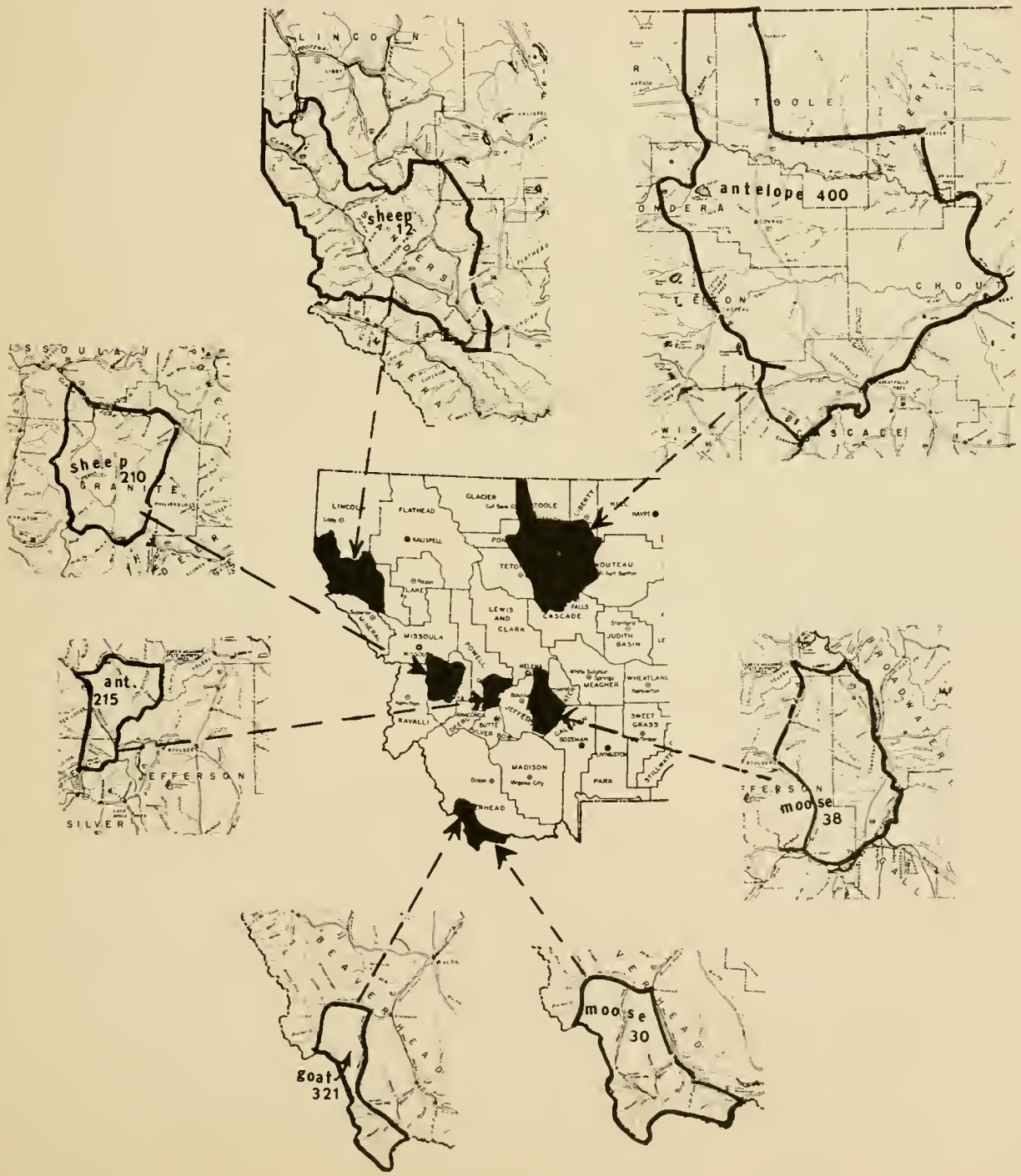
There have been a number of boundary changes this year. The most notable changes, shown on the accompanying map include new areas, or enlargement of hunting areas. Major additions include:

Moose—a new moose area, Number 30, located in southwestern Montana and an addition to the northern portion of area 38.

Bighorn Sheep—a new sheep area, number 12, has been added in Sanders county. Old sheep area 200 in Granite county will be enlarged considerably and will be known as area 210.

Goat—a brand new goat area located in the southwestern portion of Beaverhead county will be numbered 321.

Antelope—There will be a new antelope area which includes parts of Powell and Deer Lodge counties. This will be area 215. The western boundaries of area 400 and 401 will be extended to the border of Glacier National Park. There will also be a number of boundary changes in southeastern Montana. These changes will involve splitting up of some of the larger existing areas.



THE PROTECTION OF GAME

The idea of game laws arrived on shores with the earliest white settlers.

Connecticut prohibited the exporting of game from the state as early as 1677. The first deer law, which prohibited the taking of does, was passed in Virginia in 1738. New York put a stop to the use of hounds in deer hunting in 1788, and Rhode Island passed the first seasonal regulation in 1846 to protect waterfowl from spring shooting.

The bag limit made its first appearance in Iowa in 1878 and by the end of the century 13 states were limiting the amount of game that could be taken by hunters. In the next ten years, sportsmen of 23 more states had called for this approach to wildlife conservation.

The concept of resident hunting licenses caught on even faster. The first were issued in 1895 in Michigan and North Dakota. By 1910 there were 33 states obtaining revenue from hunters through licenses.

New game laws required state game wardens to enforce them and in 1878 the first were appointed in New Hampshire and California. By the turn of the century they were employed in 31 states.

Congress joined the move to preserve game in 1900 sounding the death knell for the market hunters with passage of the Lacey Act. This federal law prohibited interstate transportation of game which had been killed or possessed in violation of state law at either end of the transaction.

National Shooting Sports Foundation
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